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ABSTRACT

This paper is the third in a series of studies concerned with the effects of different forms and sources of leadership. It examines the effects of transformational leadership practices on organizational conditions and student engagement with school, taking into account the potentially large effects of family educational culture. For the study, a school district serving a population of approximately 58,000 students and being confronted with expectations for change from both the district and provincial government was examined. Survey data from 1762 teachers and 9,941 students in a large school district were used to explore the relative effects of transformational leadership practices on selected organizational conditions and student engagement. Results indicate that transformational leadership effects are significant, albeit weak on the affective or psychological dimension and the behavioral dimension of student engagement. The size of the effects are approximately the same as those found in two previous studies. Findings reinforce the significance of family educational culture. For the study, family educational culture replaced socioeconomic status (SES) on the grounds that it more precisely targeted elements subsumed by global SES measures. Family educational culture behaved statistically in a manner comparable to the behavior of SES in previous school-effects studies. (Contains 59 references.) (RJM)

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The Effects Of Transformational Leadership On Organizational Conditions And Student Engagement With School

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Abstract

Most school restucturing initiatives assume significant capacity development on the part of individuals, as well as whole organizations; they also depend on high levels of motivation and commitment to solving the substantial problems associated with the implementation of restructuring initiatives. Transformational approaches to leadership have long been advocated as productive under these conditions, and evidence suggests that transformational practices do contribute to the development of capacity and commitment. Much less evidence is available, however, about whether these socio-psychological effects actually result in organizational change and enhanced organizational outcomes.

Survey data from an achieved sample of 1762 teachers and 9941 students in one large school district were used to explore the relative effects of transformational leadership practices on selected organizational conditions and student engagement with school. Results demonstrated strong significant effects of such leadership on organizational conditions, and moderate but still significant total effects on student engagement

The Effects Of Transformational Leadership On Organizational Conditions And Student Engagement With School

Most school reform initiatives assume significant capacity development on the part of individuals, as well as whole organizations. Efforts to reform instruction encompassed in the "teaching for understanding" movement (e.g., Ball & Rundquist, 1993), for example, often require teachers to:

> think of subject-matter content in new ways... [be] much more attentive and responsive to the thinking of students"... and [become] more adventurous in their thinking (Putnam & Borko, 1997, p. 1229).

Initiatives such as this one also depend on high levels of motivation and commitment on the part of school staffs to solving the often complex problems associated with their implementation. "Reform documents", Putnam and Borko point out, " stop short of offering concrete images and prescriptions for what this new reformed teaching should be like" (1997, p. 1224). This assertion could be made for most reform initiatives. As a consequence, whether a reform iniative actually improves the quality of education or simply becomes another "fatal remedy" (Seiber, 1981) hinges on the work of implementors. And the extent to which they do this work depends a great deal on the their commitments and capacities.

Transformational approaches to leadership have long been advocated as productive under conditions fundamentally the same as those faced by schools targeted for reform (Yukl, 1994; Leithwood, 1994). Considerable evidence suggests that transformational practices do contribute to the development of capacity and commitment (e.g., Yammarino, Dubinsky & Spangler, 1998). Much less evidence is available about whether these socio-psychological effects actually result in organizational change and enhanced organizational outcomes, however, especially in school contexts (for a recent review of this evidence, see

Leithwood, Tomlinson & Genge, 1996): exploring this question was our purpose in this study.

Framework

This is the third in a series of studies concerned with the effects of different forms and sources of leadership using two comparable, relatively large data bases (Leithwood & Jantzi, 1998, 1999). Each study in the series has been guided by a framework consisting of the same mediating and dependent variables but focused on a different independent (leadership) variable. According to this framework, the influence of leadership on student engagement with school is mediated by both school and classroom level conditions. School conditions influence student engagement directly, as well as indirectly through their influence on classroom conditions. Family educational culture is a variable which directly influences not only student engagement, but school conditions, as well.

Transformational Leadership

Part of a cluster of related approaches termed "new leadership" by Bryman (1992), transformation leadership only recently has become the subject of systematic empirical inquiry in school contexts. As has been pointed out, this approach to leadership fundamentally aims to foster capacity development and higher levels of personal commitment to organizational goals on the part of leaders' colleagues. Increased capacities and commitment are assumed to result in extra effort and greater productivity (Burns, 1978; Bass, 1985).

Authority and influence associated with this form of leadership are not necessarily allocated to those occupying formal administrative positions, although much of the literature adopts their perspectives. Rather, power is attributed by organization members to whomever is able to inspire their commitments to collective aspirations, and the desire for personal and collective mastery over the capacities needed to accomplish such aspirations.

Current educational leadership literature offers no unitary concept of transformational leadership. Kowalski and Oates (1993), for instance, accept Burns' (1978) original claim that transformational leadership represents the transcendence of self-interest by both leader and led. Dillard (1995, p. 560) prefers Bennis' (1959) modified notion of "transformative leadership - the ability of a person to reach the souls of others in a fashion which raises human consciousness, builds meanings and inspires human intent that is the source of power'". Leithwood (1994) used another modification of Burns, this one based on Bass' (1985) two-factor theory in which transactional and transformational leadership represent opposite ends of the leadership continuum. Bass maintained that the two actually can be complementary. Leithwood identified six factors that make up transformational leadership. Hipp and Bredeson (1995), however, reduced the factors to five in their analysis of the relationship between leadership behaviors and teacher efficacy. Gronn (1996) notes the close relationship, in much current writing, between views of transformational and charismatic leadership, as well as the explicit omission of charisma from some current conceptions of transformational leadership.

The model of transformational leadership developed from our own research in schools, including factor analytic studies, describes transformational leadership along six dimensions: building school vision and goals; providing intellectual stimulation; offering individualized support; symbolizing professional practices and values; demonstrating high performance expectations; and developing structures to foster participation in school decisions (Leithwood, 1994; Leithwood, Jantzi, & Steinbach, 1999). Each dimension is associated with more specific leadership practices and the problem-solving processes used by transformational leaders also have been described (Leithwood & Steinbach, 1995).

Most models of transformational leadership are flawed by their under representation of transactional practices (which we interpret to be "managerial" in nature). Such practices are fundamental to organizational stability. For this reason, we have recently added four management dimensions to our own model based on a review of relevant literature (Duke

& Leithwood, 1994). These dimensions, also measured in this study, include: staffing, instructional support, monitoring school activities, and community focus.

There is a small but compelling body of empirical evidence concerning the effects of this form of leadership on a wide array of organizational and student outcomes when exercised by principals (Leithwood, Tomlinson & Genge, 1996). Our study contributes to this literature in two ways. First, the study examined the effects of transformational practices exercised by those not only in administrative roles, potentially a distributed form of transformational leadership. Second, the study focused on an especially important student outcome, student engagement, for which there is no prior evidence of leadership effects.

School Conditions

Studies that inquire only about the direct effects of school leadership on student outcomes tend to report weak or inconclusive outcomes, whereas studies that include mediating and/or moderating variables in their designs tend to report significant effects (Hallinger & Heck, 1996). Because the largest proportion of school leadership effects on students are mediated by school conditions, a significant challenge for leadership research is to identify those alterable conditions likely to have direct effects on students, and to inquire about the nature and strength of the relationship between them and leadership. In their 1996 review, Hallinger and Heck reported evidence of only one mediating variable, school goals, consistently interacting with principal leadership. One reason for such limited results may be insufficient importance attributed by researchers to their choices of mediating variables. (Hosking & Morley, 1988).

Building directly on prior work by Leithwood (1994) and Ogawa and Bossert (1995), and using evidence from their two 1996 reviews, Hallinger and Heck (1998) have proposed four school conditions through which leadership may exercise its influence. These conditions include purposes and goals, school structure and social networks, people,

and organizational culture. Our choice of school conditions for this study included three of these four variables along with several others not identified by Hallinger and Heck. In a factor analysis carried out as part of our previous study (Leithwood & Jantzi, 1998), all of these conditions loaded on the same factor.

"Purposes and goals", one of the school conditions included in our framework, includes what members of the school understand to be both the explicit and implicit purposes and directions for the school. It also encompasses the extent to which such purposes and directions are believed to be a compelling and challenging target for one's personal practices as well the collective school improvement efforts of staff. Evidence from our reviews suggested that such purposes contribute to school effectiveness, for example, to the extent that members are aware of them, and to the extent they are perceived to be clear, meaningful, useful, current, congruent with district directions, and to reflect important educational values. This variable bears close similarity to what Stringfield and Slavin (1992) refer to as "meaningful goals" and what Reynolds et al (1996) label "shared vision and goals". It is the only mediating variable that Hallinger and Heck (1996) found consistently interacting with principal leadership across the 40 empirical studies included in their review.

Although conceptually part of Hallinger and Heck's (1998) purposes and goals variable, we treated "school planning" as a separate school condition in our study. It includes the explicit means used for deciding on mission and goals, and on the actions to be taken for their accomplishment. Planning processes contribute to school effectiveness, for example, to the extent that they bring together local needs and district goals into a shared school vision (Mortimore, 1993; Hargreaves & Hopkins, 1991).

"Organizational culture" is a third school-level mediating variable included in our study. Hallinger and Heck (1998) suggest that this variable focuses on the importance of developing shared meanings and values. For purposes of our study, organizational culture

was defined as the norms, values, beliefs, and assumptions that shape members decisions and practices. The contribution of culture to school effectiveness depends, for example, on the content of these norms, values, beliefs, and assumptions (e.g. student centred). It also depends on the extent to which they are shared, and whether they foster collaborative work. This variable shares elements of Reynolds et al (1996) "learning environment" and the "consensus and cooperative planning" to which Scheerens (1992), and Creemers and Reetzig (1996) refer.

"Structure and organization", the fourth school condition included in this study, was defined as the nature of the relationships established among people and groups in the school and between the school and its external constituents. As Hallinger and Heck (1998) argue,

> "leadership is linked to organizational roles and the networks of relations among roles because it is this network that comprises the organizational system" (1998, p. 173).

Such relationships contribute to school effectiveness, for example, when they support the purposes of the curriculum, and the requirements for instruction. Structure and organization also contribute to school effectiveness when they facilitate staffs' work, professional learning, and opportunities for collaboration. This variable includes elements of what Reynolds et al. (1996) include in "shared vision and goals", as well as in school ethos or "learning environment".

Information collection and decision making was the final variable included among the school conditions in the framework guiding our study. This variable includes the nature and quality of information collected for decision making in the school, the ways in which members of the school use that information and how they are involved in decisions. Schools benefit, for example, when information for decision making is systematically collected, varied, and widely available to most school members for decisions. This variable

is reflected in the importance attached to "monitoring student progress" (Reynolds et al., 1996; Mortimore, 1993) as well as the extensive support now available for the contribution to organizational effectiveness of employee participation in decision making (Lawler, 1986; Conley, 1991).

Classoom Conditions

The inclusion of classroom conditions in this study goes beyond the set of mediating variables suggested as important in principal leadership studies by Hallinger and Heck (1998). While there is considerable evidence that classroom conditions make a substantially greater contribution to student achievement than do school conditions (Bosker et al, 1990), the strength of the relationship between such conditions and student engagement is unknown. If student engagement is as important a variable as we argue it is below, a comprehensive understanding of the avenues through which leadership influences it is called for.

Two classroom conditions were included in this study, instructional services and policies and procedures. These conditions loaded on the same factor in our previous study (Leithwood & Jantzi, 1998) Instructional services were defined as interventions by teachers with students aimed at stimulating their educational growth. Practices associated with this variable included, for example, instructional planning, the consideration of learning principles, clarification of appropriate instructional goals, decisions about curricular content, selection of instructional strategies, and the uses of instructional time. A large literature supports the important contribution to student achievement of these and closely related variables (Reynolds et al., 1996; Creemers & Reetzig, 1996).

Policies and procedures, was defined as guidelines for decision making and action in the school. Although not referring directly to practices in the classroom, when policies in the school are student oriented, encourage continuous professional growth among staff, and encourage the allocation of resources to school priorities without stifling individual initiative, their contibution to classroom practice is expected to be significant. At least

indirect support for this variable can be found in evidence concerning the influence on school effects of "high expectations", "consistency" and "control" (Mortimore, 1993; Creemers, 1994).

Student Engagement With School

Student engagement with school has both behavioral and affective components. Extent of students' participation in school activities, both inside and outside of the classroom, is the behavioral component. The affective component is the extent to which students identify with school and feel they belong. As it was defined and measured in this study, student engagement is quite similar to the "social cohesion" variable used by Oxley (1997) as a dependent measure for her test of the effects of community-like school qualities on students.

Student engagement was chosen as the dependent measure in this study for several reasons. Expanding our understanding of leadership effects beyond basic math and language achievement was one of the reasons. Such achievement measures have served as dependent variables in the vast majority of school leadership studies, to date, not because they are the only, or always the most suitable, measures but because they are available for research at little or no cost to the researcher. Since the research team had to collect any outcome measures to be used in this study themselves, a measure was chosen which would extend the knowledge base concerning the scope of leadership effects.

The choice of student engagement is warranted on four additional grounds, as well. First, for many students, dropping out of school is the final step in a long process of gradual disengagement and reduced participation in the formal curriculum of the school, as well as in the school's co-curriculum and more informal social life. Reversing such disengagement is a necessary requirement for achieving the ambitious outcomes advocated by most current school reform initiatives. Variation in schools' retention rates are likely to be predicted well from estimates of student participation and identification (Finn, 1989).

Second, some factors giving rise to students becoming at risk are to be found very early in the child's pre-school and school experiences. Patterns of student participation and identification are sensitive to the consequences of these factors as early as the primary grades. Change in a student's participation and identification is a reliable symptom of problems which should be redressed as early as possible (Lloyd, 1978). Finally, at least a modest amount of evidence suggests that student engagement is a reliable predictor of variation in such typical student outcomes as social studies, math, and language achievement (Finn & Cox, 1992; Bredschneider, 1993; Dukelow, 1993).

Our orientation to understanding and measuring student participation and identification began with the work of Jeremy Finn. In his paper "Withdrawing from School" (1989), Finn offers a model explaining continuing engagement in school as a function of participation in school activities which, along with other influences, results in successful performance. Such performance is esteem building and fosters bonding or identification with the school. One central construct in the Finn model is identification with school. The terms "affiliation", "involvement", "attachment", "commitment" and "bonding" encompass the two ideas which, Finn (1989) suggests, constitute a good working definition of identification:

> First, students who identify with school have an internalized conception of belongingness - that they are discernibly part of the school environment and that school constitutes an important part of their own experience. And, second, these individuals value success in school-relevant goals. (p. 123)

Such identification and engagement with school, an internal state, has been found to mediate a wide range of achievement and behavioral outcomes among students, as mentioned above.

The second construct central in the model is overt behavior - students' actual participation in school activities. Finn identifies four levels of such participation and

suggests a strong positive relationship between these levels of participation and the extent of students' identification with school. Level One participation involves acquiescence to the need to attend school, to be prepared for school tasks, and to respond to teachers' instructions. At Level Two, students take initiative in the classroom, are enthusiastic, and may spend extra time on school work. Level Three involves participation in school activities outside of the formal curriculum - the social and co-curricular activities of the school, in addition to extensive participation in academic work. Participation in school governance is the fourth level of participation in Finn's model. In the present study, the mean of these four levels was used as the measure of participation.

Finn conceptualized the participation-identification model in the form of a developmental cycle which included other variables. Participation in school is essential to successful school performance, although such performance is also influenced by students' perceptions of the quality of their instruction and their own ability (perhaps better understood as academic self-efficacy). Quality of instruction is also an influence on participation. Successful performance influences the students' sense of belonging and valuing of school-related goals. Such identification, in turn, has a positive effect on participation. While evidence was collected about those variables in the model in addition to participation and identification, that evidence was not used in this study.

Family Educational Culture

In this study, family educational culture, a moderator variable, was used in place of more commonly used socio-economic status (SES) measures to represent contributions to student outcomes from home and family sources. Historically, SES has been the most powerful predictor of student success at school (e.g., Coleman et al., 1966; Bridge, Judd, & Moock, 1979). It also has been shown to influence the form of leadership exercised by principals (Hallinger, Bickman & Davis, 1997) - hence the arrow in Figure 1 signifying influence flowing from family educational culture to school leadership. But SES is a crude

proxy, masking a host of family interactions which have powerful educational consequences. These interactions vary widely across families, often without much relation to family income, for example, and this is why we prefer family educational culture over SES as a moderator variable in this study.

The content of family educational culture includes the assumptions, norms, values, and beliefs held by the family about intellectual work, in general, school work in particular, and the conditions which foster both. Six literature reviews were used as the sources of eight dimensions of either the family's educational culture or resulting behaviors and conditions demonstrably related to school success (Bloom, 1984; Walberg, 1984; Scott-Jones, 1984; Finn, 1989; Rumberger, 1983; 1987). Taken as a whole, these dimensions represent what Walberg (1984) refered to as the "alterable curriculum of the home". This curriculum, twice as predictive of academic learning as SES according to Walberg's analysis, includes family work habits, academic guidance and support, and stimulation to think about issues in the larger environment. Family culture also includes the academic and occupational aspirations and expectations of parents/guardians, the provision of adequate health and nutritional conditions, and a physical setting conducive to academic work in the home (see Leithwood and Jantzi, 1998, for a more detailed desciption of these variables).

Based on this framework, our intention in carrying out the study was to identify: the proportion of variation in school and classroom conditions explained by teachers' perceptions of the extent of transformational leadership practices exercised in their schools; the total direct and indirect effects (explained variation) of transformational leadership on student engagement; the amount of variation in student engagement explained by school and classroom variables; whether transformational leadership explains comparable amounts of variation in each of the two dimensions of student engagement (participation, identification); and the proportion of variation in both transformational leadership and student engagement explained by family educational culture.

Methods

Context

Data about leadership, school and classroom conditions, student engagement, and family educational culture were collected through two surveys in one large school district in a province in eastern Canada. The district served a population of approximately 58,000 urban, suburban, and rural elementary and secondary students. Data for this study focused on the 2465 teachers, and 44,920 students in the district's 123 elementary and junior high schools.

At the time of data collection, all schools in this district were confronted with expectations for change from both the district and the provincial government which clearly called out for the exercise of school-level leadership. For example, just two years prior to the study, the district had been newly formed through the amalgamation of three much smaller administrative jurisdictions. This gave rise to the need for considerable district-wide culture building, policy realignment, and structural reconfiguration. During this period, as well, the provincial government was proceeding with a host of other changes effecting schools - changes in curriculum, student assessment and funding formulae, for example. Comparable changes were being in many educational jurisdictions across Canada at the time of the study.

Instruments

Two survey instruments were developed, one to collect data from teachers on school and classroom (organizational) conditions, and transformational leadership, the other to collect evidence from students on their engagement with school and their familys' educational cultures.

The "Organizational Conditions and School Leadership Survey" contained 214 items measuring five sets of school conditions, two sets of classroom conditions, and the perceived influence of teacher and principal leadership in the school. Items measuring

school and classroom conditions were stated in the form suggested by the research literature to be most desirable, and were rated on a five-point Likert scale ("strongly disagree" to "strongly agree" that the statement was true for their school, with a "not applicable" response option available, as well.

The "Student Engagement and Family Culture Survey" contained 61 items measuring student participation in school activities (34), student identification with school (17), and students' perceptions of their family educational culture (10). Students responded to each item on the same five-point scale used by teachers ("strongly disagree" to "strongly agree") that the statement was true for them, with a "not applicable" response option also available.

Sample

All elementary and junior high school teachers in the school district (n= 2465) were asked to respond to the "Organizational Conditions and School Leadership Survey". Because of the extensive number of items, however, two forms of the survey were developed. Each form collected data about at least three sets of organizational conditions and all leadership items. All schools with fewer than 10 teachers were asked to complete both forms of the survey, preferably at two different times to prevent fatigue. Each form required an average of 20 minutes to complete. In all other schools, each teacher was randomly assigned either Form A or Form B. A total of 888 teachers completed Form A of the survey and 874 teachers completed Form B for an overall response rate of 71%.

The "Student Engagement and Family Educational Culture Survey" was administered to all students in one class in each of the three highest grades. In order to protect student anonymity, principals rather than teachers supervised the administration and subsequent collection of these surveys. A total of 8805 students responded in the 110 schools in the sample.

Data for all variables in this study were complete for 110 of the 123 elementary and junior high schools in the district.

Data Analysis

Responses of individual teachers and students to the surveys were aggregated to the school level. SPSS was used to aggregate individual responses by school and then to calculate means, standard deviations, and reliability coefficients (Cronbach's alpha) for all the scales measuring the variables. As in our previous study (Leithwood & Jantzi, 1998), principal components extraction with varimax rotation was used to analyze the seven school and classroom conditions to estimate the number of factors measured by the specific conditions and assess the extent to which our conceptual distinctions among the seven organizational conditions could be verified empirically.

LISREL was used to assess the direct and indirect effects of leadership on student engagement. This path analytic technique allows for testing the validity of causal inferences for pairs of variables while controlling for the effects of other variables. Data were analyzed using the LISREL 8 analysis of covariance structure approach to path analysis and maximum likelihood estimates (Joreskog & Sorbom, 1993). Hierarchical linear modelling is the analytic technique of choice for some researchers exploring data bases such as this one. For a variety of practical reasons, however, we were unable to collect our data in a way that allowed us to link the responses of individual student with their teachers, a prerequisite for HLM.

Results

Table 1 reports means and standard deviations, aggregated to the school level, of teachers' ratings of transformational leadership and all school and classroom conditions. Comparable information about student responses to items included in the three scales of the Student Engagement and Family Culture Survey appear in the last three rows of this Table. The far right column indicates that the internal reliabilities of all scales were acceptable, ranging from .74 to .95.

[Insert Table 1 about here]

Results of the factor analysis, reported in Table 2 indicate that only one factor was extracted from the 7 organizational conditions, rather than two factors (a school factor and a classroom factor) as in one of our previous studies using comparable data (Leithwood & Jantzi, 1998). Five of the conditions loaded at .83 or higher, whereas the relationship of structure and organization to the factor was somewhat weaker at .72. Instructional strategies had the weakest relationship at .70. Table 3 demonstrates a similar, single factor outcome of the factor analysis of the ten leadership and management dimensions of our model of transformational leadership. Results of both these factor analyses are reflected in the path model tested below.

[Insert Tables 2 and 3 about here]

Table 4 reports correlation coefficients among all variables included in the path model. All relationships are statistically significant except the relationship between transformational leadership and family educational culture.

Figure 1 reports the results of testing (using LISREL) a version of the initial framework for the study adapted in response to the factor analyses, reported in Tables 2 and 3, in which all items measuring school and classroom conditions loaded on the same factor and all items measuring leadership and management loaded on the same factor. Although the model also tested relationships between family educational culture and leadership as well as between conditions and participation, to facilitate interpretation only the significant paths are shown in Figure 1. The model is an acceptable fit with the data (X^2 (2, N = 110) = 1.91, p =.38; AGFI =.95, RMR = .01; NFI = 1.00, PGFI = .13) and, as a whole, explains 84% of the variation in student participation, and 78% of the variation in student identification. Family educational culture has the strongest relationship with student engagement as reflected in its significant total effects on participation (.88) and identification (.87). Family educational culture has significant effects on organizational

conditions, and these conditions have significant, although modest, total effects on both student participation (.11) and identification (.15).

Transformational leadership has strong, significant direct effects on organizational conditions and weak but significant indirect effects on student participation (.07) and identification (.10).

[Insert Figure 1 about here]

Discussion and Conclusion

The purpose of this study was to inquire about the effects of transformational leadership practices on organizational conditions and student engagement with school, taking into account the potentially large effects of family educational culture. Results of this study are consistent, in many respects, with evidence provided by other large-scale, quantitative studies of principal leadership effects, as well as several of our own earlier studies of transformational leadership (Leithwood, 1994). With student engagement in school as the dependent variable, results of the study indicate that transformational leadership effects are significant although weak on the affective or psychological dimension (identification) and the behavioral dimension (participation) of student engagement. The size of these transformational leadership effects are approximately the same as those found for the effects of leadership provided specifically by principals in two of our previous studies (Leithwood & Jantzi, 1998, 1999) which also used student engagement as the dependent variable. It is possible, of course, that respondents in the present study primarily had principals in mind as they responded to questions about the extent to which they experienced transformational leadership in their schools.

Whether the focus is on leadership from principals, in particular, or on transformational leadership practices whatever their source, two quite different interpretations of these results are possible. The most obvious interpretation is that principals, in the case of our

earlier study, and transformational leadership practices, in the present study, make a disappointing contribution to student engagement. Had the dependent variable in the study been basic math or language skills, this interpretation would be seen as fundamentally in contradiction with the assumptions of most school professionals, normative assertions about the role of leadership in schools (e.g. Hudson, 1997; Foster, 1989), and the results of many school effectiveness studies (e.g. Mortimore, 1993). In fact, student engagement is an outcome not nearly so obviously tied to teachers' classroom practices as are more conventional outcome measures, and so potentially more susceptable to influence by those outside the classroom. Our results, for this reason, might be considered doubly disappointing. This might be termed the "romance of leadership" interpretation, after Meindl's (1995) argument that leadership is a convenient, phenomenologically legitimate, social construction which, nonetheless, masks a complex, multi-sourced bundle of influences on organizational outcomes.

A second interpretation of these results, after Hallinger and Heck's (1996, b) analysis of principal leadership effects, cautions against dismissing, as not meaningful, the admittedly small effects of leadership on, in this case, student engagement. Transformational school leadership practices, after all, do explain a large proportion of the variation in organizational conditions, those features of the school to which leaders have direct access and which are, conceptually, the means through which school effects are exercised.

To put this interpretation in a broader context, recent reviews of empirical research on school effectiveness suggest that educational factors for which data are available explain, in total, something less than 20% of the variation in student cognitive outcomes; very little evidence is available concerning such non-cognitive outcomes as the one used in this study. Reynolds et al (1996) suggest 8-12% for research carried out in the United Kingdom, while Creemers and Reetzig suggest 10-20% for studies carried out "in the Western Hemisphere...after correction for student intake measures such as aptitude or social

class..." (1996, p. 203). Variation within this range across studies may be explained by such variables as school size, type of student outcome serving as the dependent measure, nature of students, and department and subject matter differences.

While these relatively small amounts of explained variation are now considered to be both meaningful, and practically significant, a school is not a single variable. It is an aggregate of variables, the "correlates" of effective schools, or the organizational conditions used as mediating variables in this study. Some of these variables most likely contribute more strongly than others to school's effects, although they have yet to be unpacked empirically, except for distinguishing between classroom and school level factors (Creemers & Reetzig, 1996; Scheerens, 1997). Efforts to do the unpacking, however, realistically begin with very modest amounts of variation to be explained, especially if it is assumed, as seems reasonable, that at least a handful of factors contribute to explained variation. This was Ogawa and Hart's (1985) argument in claiming importance for their finding that principal leadership explained 2-8% of the variation in student performance, similar to the results of this study. Under such circumstances knowing the relative explanatory power of a variable will be at least as interesting as knowing the total amount of variation it explains.

Results of the study involving family educational culture are significant for three reasons. First, most school effects studies acknowledge a central role for SES in accounting for variation in student achievement. In this study family educational culture replaced SES on the grounds that it more precisely targeted those elements subsumed by, typically, very global SES measures (e.g., percentage of students in school eligible for free lunches) contributing to student success at school. Our results support the validity of this concept and its measurement in future school and leadership effects studies. Family educational culture behaved statistically in a manner comparable to the behavior of SES in most previous school effects studies.

Second, the exceptionally large proportion of variation in student engagement explained by family educational culture raises the possibility that different student outcomes may range considerably in their sensitivity to family, as compared with school, variables. This is apparent already in studies attempting to explain variation in mathematics as compared with language achievement, for example (Thomas et al, 1997). It seems likely to become much more apparent as evidence from school and leadership effects studies accumulates across a wider array of student outcomes, especially across important but "non-standard" outcomes such as student engagement. These outcomes, while reflected almost not at all in current school effects research, are an important feature of most curriculum policy, and are central to many parents' assessments of their local schools (Townsend, 1994). This suggests that future school and leadership effects studies ought to conceptualize family variables more centrally in their designs: they also might do well to reconceive themselves as "school and family effects" or "leadership and family effects" studies. Our understanding of school effects in general, and leadership effects in particular, is unlikely to progress much further without systematically inquiry about how schools and families co-produce the full array of outcomes for which schools are responsible.

Finally, effects on student engagement of transformational leadership practices were substantially weaker than those of family educational culture. This pattern of effects was especially strong for teacher leadership in one of our previous studies (Leithwood & Jantzi, 1998). A plausible implication of these findings is that high levels of student engagement reduce teachers' perceived needs for either teacher or principal leadership. Student engagement could be conceived of as a substitute for leadership (Howell, 1997), as well as a student outcome[1].

[1] We are indebted to Karen Seashore Louis for this insight (personal communication).

References

Ball, D.L., & Rundquist, S.S. (1993), "Collaboration as a context for joining teacher learning with learning about teaching", in D. Cohen et al. (Eds.), *Teaching for understanding: Challenges for policy and practice* (pp. 13-42). Jossey-Bass, San Francisco.

Bascia, N. (1997), "Invisible leadership: teachers' union activity in schools", *The Alberta Journal of Educational Research*, Vol. 33 No. 2/3, pp. 69-85.

Bass, B.M. (1985), *Leadership and performance beyond expectations*, The Free Press, New York.

Bennis, W.G. (1959), "Leadership theory and administrative behavior: the problem of authority", *Administrative Science Quarterly*, Vol. 4, pp. 259-260.

Bloom, B.S. (1984), "The search for methods of group instruction as effective as one-to-one tutoring", *Educational Leadership*, May, pp. 4-17.

Bosker, R.J., Kremers, E.J., & Lugthart, E. (1990), "School and instruction effects on mathematics achievement", *School Effectiveness and School Improvement*, Vol. 1 No. 4, pp. 233-248.

Bredschneider, C (1993), *A study of student participation in and identification with one Ontario secondary school*, unpublished masters paper OISE, Toronto.

Bridge, R., Judd, C., & Moock, P. (1979), *The determinants of educational outcomes*, Ballinger, Cambridge.

Bryman, A. (1992), *Charisma and leadership in organizations*, Sage, Newbury Park.

Burns, J. (1978), *Leadership*, Harper & Row, New York.

Coleman, J.S., et al. (1966), *Equality of educational opportunity*, U.S. Government Printing Office, Washington.

Conley, D.T. (1993), *Roadmap to restructuring: policies, practices, and the emerging visions of schooling*, ERIC Clearinghouse on Educational Management, Oregon.

Creemers, B.P.M. (1994), *The effective classroom*, Cassell, London.

Creemers, B.P.M., & Reetzig, G.J. (1996), School level conditions affecting the effectiveness of instruction", *School Effectiveness and School Improvement*, Vol. 7 No. 3, pp. 197-228.

Dillard, C.B. (1995), "Leading with her life: an African-American feminist (re)interpretation of leadership for an urban high school principal", *Educational Administration Quarterly*, Vol. 31 No. 4, pp. 539-563.

Duke, D., & Leithwood, K. (1994), *Management and leadership: A comprehensive view of principals' functions*, mimeo, OISE, Toronto.

Dukelow, G.A. (1993), *A statistical analysis of educational variables that influence high school students' grades and participation*, unpublished masters thesis, University of Victoria.

Finn, J.D. (1989), "Withdrawing from school", *Review of Educational Research*, Vol. 59 No. 2, pp. 117-143.

Finn, J.D., & Cox, D. (1992), "Participation and withdrawal among fourth-grade pupils", *American Educational Research Journal*, Vol. 29 No. 1, pp. 141-162.

Foster, W. (1989), Toward a critical practice of leadership, in J. Smyth (Ed.), *Critical perspectives on educational leadership* (pp. 39-62), Falmer Press, London.

Gronn, P. (1996), "From transactions to transformations: a new world order in the study of leadership", *Educational Management and Administration*, Vol. 24 No. 1, pp. 7-30.

Hallinger, P., Bickman, L., & Davis, K. (1997), School context, principal leadership and student achievement. *Elementary School Journal.*

Hallinger, P., & Heck, R.H. (1996a), "Reassessing the principal's role in school effectiveness: a review of empirical research, 1980-1995", *Educational Administration Quarterly*, Vol. 32 No. 1, pp. 5-44.

Hallinger, P., & Heck, R.H. (1996b), The principal's role in school effectiveness: An assessment of methodological progress, 1980-1995, in K. Leithwood et al. (Eds.), *International handbook of educational leadership and administration* (pp. 723-783), Kluwer Academic Publishers, The Netherlands.

Hallinger, P., & Heck, R.H. (1998), "Exploring the principal's contribution to school effectiveness: 1980-1995", School Effectiveness and School Improvement, Vol. 9 No. 2, pp. 157-191.

Hargreaves, D., & Hopkins, D. (1991), *The empowered school*, Cassell, London.

Hart, A.W. (1995), "Reconceiving school leadership: emergent views", The Elementary School Journal, Vol. 96 No. 1, pp. 9-28.

Hipp, K.A., & Bredeson, P.V. (1995), "Exploring connections between teacher efficacy and principals' leadership behaviors", *Journal of School Leadership*, Vol. 5 No. 2, pp. 136-150.

Hosking, D., & Morley, I.E. (1988). The skills of leadership, in J.G. Hunt, B.R. Baliga, H.P. Dachler, & C.A. Schriesheim (Eds.), *Emerging leadership vistas* (pp. 80-106). Lexington Books, Lexington.

Howell, J. (1997), "Substitutes for leadership: their meaning and measurement - a historical assessment", *The Leadership Quarterly*, Vol. 8 No. 2, pp. 113-116.

Hudson, J. (1997), "Ethical leadership: the soul of policy making", *Journal of School Leadership*, Vol. 7 No. 5, pp. 506-520.

Joreskog, K.G., & Sorbom, D. (1993), *LISREL : Structural equation modeling with SIMPLIS command language*, Scientific Software, Inc., Chicago

Kowalski, J., & Oates, A. (1993), "The evolving role of superintendents in school-based management", *Journal of School Leadership*, Vol. 3 No. 4, pp. 380-390.

Lawler III, E.E. (1986), *High-involvement management*, Jossey-Bass, San Francisco.

Leithwood, K. (1994), "Leadership for school restructuring", *Educational Administration Quarterly*, Vol. 30 No. 4, pp. 498-518.

Leithwood, K., & Jantzi, D. (1998), *Distributed leadership and student engagement in school*, paper presented at the annual meeting of the American Educational Research Association, San Diego, April.

Leithwood, K., & Jantzi, D. (1999), Principal and teacher leadership effects: a replication. Submitted to *School Leadership and Management*.

Leithwood, K., & Steinbach, R. (1995), *Expert problem solving*, State University of New York Press, Albany.

Leithwood, K., Jantzi, D., & Steinbach, R. (1999), *Changing leadership for changing times*, Open University Press, London.

Leithwood, K., Tomlinson, D., & Genge, M. (1996), Transformational school leadership, in K. Leithwood et al. (Eds.), *International handbook of educational leadership and administration* (pp. 785-840), Kluwer Academic Publishers, The Netherlands.

Lloyd, D. (1978), "Prediction of school failure from third-grade data", *Educational and Psychological Measurements*, Vol. 38, pp. 1193-1200.

Meindl, J.R. (1995), "The romance of leadership as a follower-centric theory: a social constructionist approach", *Leadership Quarterly*, Vol. 6 No. 3, pp. 329-341.

Mortimore, P. (1993), "School effectiveness and the management of effective learning and teaching", *School Effectiveness and School Improvement*, Vol. 4 No. 4, pp. 290-310.

Ogawa, R., & Hart, A. (1985), "The effects of principals on the instructional performance of schools", *Journal of Educational Administration*, Vol. 23 No. 1, pp. 59-72.

Ogawa, R.T., & Bossert, S.T. (1995), "Leadership as an organizational quality', *Educational Administration Quarterly*, Vol. 31 No. 2, pp. 224-243.

Oxley, D. (1997), "Theory and practice of school communities", *Educational Administration Quarterly*, Vol. 33 supplement, pp. 624-643.

Putnam, R.T., & Borko, H. (1997), Teacher learning: implications of new views of cognition, in B.J. Biddle et al. (Eds.), *International handbook of teachers and teaching* (pp. 1223-1296), Kluwer Academic Press, The Netherlands.

Reynolds, D., Sammons, P., Stoll, L., Barber, M., & Hillman, J. (1996), School effectiveness and school improvement in the United Kingdom, *School Effectiveness and School Improvement*, Vol. 7 No. 2, pp. 133-158.

Rumberger, R.W. (1983), "Dropping out of high school: the influence of race, sex, and family background", *American Educational Research Journal*, Vol. 20, pp. 199-220.

Rumberger, R.W. (1987), "High school dropouts: a review of issues and evidence", *Review of Educational Research*, Vol. 57 No. 2, pp. 101-121.

Scheerens, J. (1997), "Conceptual models and theory-embedded principles on effective schooling", *School Effectiveness and School Improvement*, Vol. 8 No. 3, pp. 269-310.

Scott-Jones, P. (1984), Family influences on cognitive development and school achievement, in E. Gordon (Ed.), *Review of research in education, III*. American Educational Research Association, Washington.

Sieber, S. (1981), *Fatal remedies*, Plenum Press, New York.

Stringfield, S.C., & Slavin, R.E. (1992), A hierarchical longitudinal model for elementary school effects, in B.P.M. Creemers & G.J. Reezigt (Eds.), *Evaluation of effectiveness*, Publication 2, ICO, The Netherlands.

Thomas, S., Sammons, P., Mortimore, P., & Smees, R. (1997), "Stability and consistency in secondary school effects on students' GCSE outcomes over three years", *School Effectiveness and School Improvement*, Vol. 8 No. 2, pp. 169-197.

Townsend, T. (1994), "Goals for effective schools: the view from the field", *School Effectiveness and School Improvement*, Vol. 5 No. 2, pp. 127-148.

Walberg, H.J. (1984), "Improving the productivity of America's schools", *Educational Leadership*, Vol. 41 No. 8, pp. 19-27.

Yammarino, F.J., Dubinsky, A.J., & Spangler, W.D. (1998), "Transformational and contingent reward leadership: Individual, dyad, and group level of analysis", *The Leadership Quarterly*, Vol. 9 No. 1, pp. 27-54.

Yukl, G. (1994), *Leadership in organizations: third edition*, Prentice-Hall, New Jersey.

Table 1

Teacher Ratings of Organizational Conditions and Student Ratings of Family Culture and Engagement

(N = 110 Schools)

	Mean[1]	SD	Reliability[2]
Teacher Ratings of School Conditions:			
Conditions (Aggregate)	3.83	.25	.93
Purposes and Goals	4.07	.37	.95
Instructional Services	4.03	.26	.88
Culture	3.92	.33	.94
Information Collection/DM	3.85	.26	.92
Policy and Procedures	3.72	.27	.93
Planning	3.63	.32	.94
Structure and Organization	3.57	.36	.93
Teacher Ratings of Transformational Leadership:			
Transformational Leadership	3.76	.48	.90
Student Ratings of Family Educational Culture:			
Family Educational Culture	4.10	.24	.79
Student Ratings of Engagement with School:			
Identification	3.93	.30	.90
Participation	3.62	.25	.74

[1] Rating Scale: 1 = Disagree Strongly; 5 = Agree Strongly

[2] Cronbach's Alpha

Table 2

Factor Matrix Resulting from Teacher Ratings of Conditions within Their Schools

(N=110 Schools)

	Factor Loadings
Purposes and Goals	.85
Culture	.90
Planning	.83
Structure and Organization	.72
Information Collection	.88
Policy and Procedures	.89
Instructional Services	.70
Eigenvalue	4.77
Percent of Explained Variance	68.21

Table 3

Factor Matrix Resulting from Teacher Ratings of Leadership within Their Schools

(N=110 Schools)

	Factor Loadings
Staffing	.67
Instructional Support	.89
Monitoring School Activities	.86
Community Focus	.71
Building School Vision and Goals	.92
Providing Intellectual Stimulation	.93
Providing Individualized Support	.90
Symbolizing Professional Practices and Values	.92
Demonstrating High Performance Expectations	.84
Developing Collaborative Structures	.91
Eigenvalue	7.38
Percent of Explained Variance	73.81

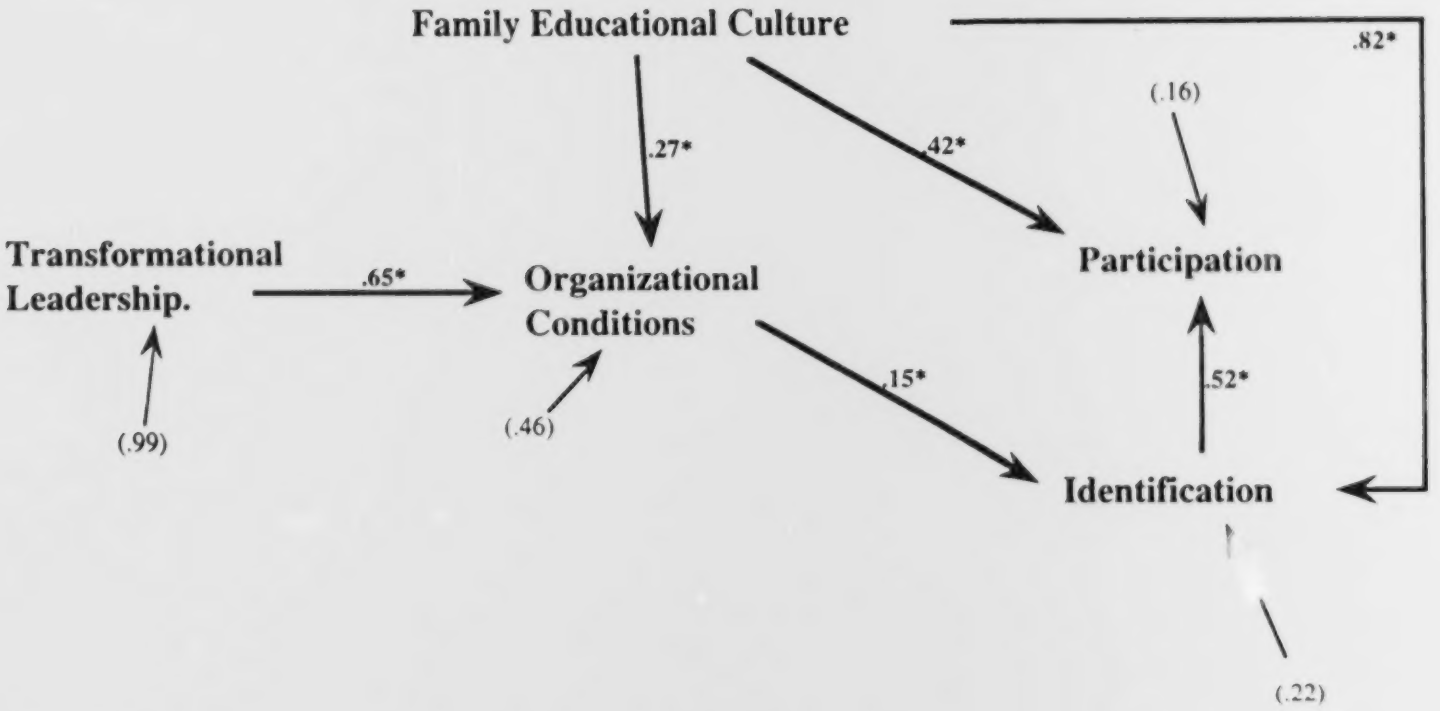
Table 4

Relationships Among Leadership, Organizational Conditions, Family Educational Culture, and Student Outcomes

(N=110 Schools)

	Leadership	Conditions	Family	Participation	Identification
Transformational Leadership	1.00	.68**	.11	.19*	.23*
Organizational Conditions	.68**	1.00	.34**	.40**	.43**
Family Educational Culture	.11	.34**	1.00	.88**	.87**
Participation	.19*	.40**	.88**	1.00	.90**
Identification	.23*	.43**	.87**	.90**	1.00

*p < .05; **p < .01



Total Effects	Student Participation	Student Identification
Family Educational Culture	.88*	.87*
Transformational Leadership	.07*	.10*
Organizational Conditions	.11*	.15*

Figure 1: Effects of transformational leadership on student engagement